1. [Twice Amended] A single element piezoelectric sensor for detecting acoustic seismic data comprising:

a continuous uninterrupted piezoelectric film forming a single piezoelectric element placed on a surface of a relatively incompressible substrate, wherein the piezoelectric film adjacent the relatively incompressible substrate generates an electrical signal substantially sensitive to compression of the piezoelectric film only;

C1

a plurality of areas of relatively compressible substrate formed in the surface of the relatively incompressible substrate adjacent areas within the continuous uninterrupted piezoelectric film, wherein the area plurality of areas within the continuous uninterrupted piezoelectric film adjacent the areas of relatively compressible substrate generate an electrical signal substantially sensitive to stretching of the piezoelectric film adjacent the relatively compressible substrate ;and

a single electrical output from the single piece of piezoelectric film.

2. [Twice Amended] The piezoelectric sensor of claim 1 further comprising:

a plurality of areas of relatively compressible substrate formed in the surface of the relatively incompressible substrate forming a continuous line array of discrete areas of increased sensitivity in the piezoelectric film to impinging acoustic pressure waves a beam pattern for the sensor determined by the relationship between the shapes and configuration of the areas relatively incompressible substrate and the areas of relatively compressible substrate adjacent the single piece of piezoelectric film.

3. [Twice Amended] The piezoelectric sensor of claim 1, further comprising:

a two-dimensional array of areas of relatively compressible substrate formed in the surface of the relatively incompressible substrate forming a two-dimensional continuous line array of areas of increased sensitivity in the piezoelectric film to impinging acoustic pressure waves.

4. [Previously Amended] The piezoelectric sensor of claim 3, further comprising: the two-dimensional continuous line array of areas of increased sensitivity are formed into a three-dimensional shape to form a three-dimensional continuous line array of areas of increased sensitivity to impinging acoustic pressure waves in the piezoelectric film.

C1 Cont.

5. [Previously Amended] The piezoelectric sensor of claim 2 further comprising: variation in at least one of a size and location of the areas of increased sensitivity to shape the beam pattern of the piezoelectric continuous line array.

6. [Previously Amended] The piezoelectric sensor of claim 2 further comprising: variation in at least one of a size and location of the areas of increased sensitivity to shape the spectral response of the piezoelectric continuous line array.

7. [Previously Amended] The piezoelectric sensor of claim 2 further comprising: variation in a ratio of the total surface area of the areas of increased sensitivity to the total surface area of the relatively incompressible substrate to shape the beam pattern of the piezoelectric continuous line array.

8. [Previously Amended] The piezoelectric sensor of claim 2 further comprising: variation in a ratio of the total surface area of the areas of increased sensitivity to the total surface area of the relatively incompressible substrate are varied to determine the spectral response of the piezoelectric continuous line array.

9. [Twice Amended] The piezoelectric sensor of claim 1 further comprising: [a shape of the continuous line array formed to determine a beam pattern of the continuous line array] wherein the piezoelectric film adjacent the areas of relatively compressible substrate generate an electrical signal substantially larger than the piezoelectric film adjacent the areas of relatively incompressible substrate.

10. [Previously Amended] The piezoelectric sensor of claim 3 further comprising: a shape of the continuous line array formed to determine the spectral response of the continuous line array.

11-23 Deleted

24. (new) A method for for detecting acoustic seismic data on a single element piezoelectric sensor comprising:

placing a continuous piece of uninterrupted piezoelectric film forming a single piezoelectric element on a surface of a relatively incompressible substrate, wherein the piezoelectric film adjacent the relatively incompressible substrate generates an electrical signal substantially sensitive to compression of the piezoelectric film only;

forming a plurality of areas of relatively compressible substrate formed in the surface of the relatively incompressible substrate adjacent areas within the continuous uninterrupted piezoelectric film, wherein the area plurality of areas within the continuous uninterrupted piezoelectric film adjacent the areas of relatively compressible substrate generate an electrical signal substantially sensitive to stretching of the piezoelectric film adjacent the relatively compressible substrate; and

connecting a single electrical output from the single piece of piezoelectric film forming the plurality of discrete areas of increased sensitivity.

25. [new] The method of claim 24 further comprising:

forming a beam pattern for the sensor by adjusting the relationship between the shapes and configuration of the areas relatively incompressible substrate and the areas of relatively compressible substrate adjacent the single piece of piezoelectric film.

26. [new] The method of claim 24, further comprising:

forming a two-dimensional array of areas of relatively compressible substrate formed in the surface of the relatively incompressible substrate to create a two-dimensional continuous line array of areas of increased sensitivity in the piezoelectric film to impinging acoustic pressure waves.

27. [new] The method of claim 26, further comprising:

forming the two-dimensional continuous line array of areas of increased sensitivity into a three-dimensional shape to form a three-dimensional continuous line array of

areas of increased sensitivity to impinging acoustic pressure waves in the piezoelectric film.

28. [new] The method of claim 25 further comprising:

varying a size or location of an area of increased sensitivity to shape the beam pattern of the piezoelectric continuous line array.

29. [new] The method of claim 25 further comprising:

varying a size or location of an area of increased sensitivity to shape the spectral response of the piezoelectric continuous line array.

30. [new] The method of claim 25 further comprising:

varying a ratio of the total surface area of the areas of increased sensitivity to the total surface area of the relatively incompressible substrate to shape the beam pattern of the piezoelectric continuous line array.

31. [new] The method of claim 25 further comprising:

variation in a ratio of the total surface area of the areas of increased sensitivity to the total surface area of the relatively incompressible substrate are varied to determine the spectral response of the piezoelectric continuous line array.

32. [new] The method of claim 25 further comprising:

wherein the piezoelectric film adjacent the areas of relatively compressible substrate

generate an electrical signal substantially larger than the piezoelectric film adjacent the areas of relatively incompressible substrate.

33. [new] The method of claim 26 further comprising:

shaping of the areas forming the continuous line array to determine the spectral response of the continuous line array.

REMARKS

Claims 1-23 are remaining in this application. Claims 1-3 and 9 have been amended. New claims 24-44 33 ? have been added. The Examiner rejected claims 1-3 and 5-15 under 35 USC 012(a) as being clearly anticipated by Carson, Fromont or Bernstein. The Examiner stated,

> Each reference teaches an array of piezoelectric acoustic sensors located on an increased sensitive area of a rigid substrate. Note especially Carson, figs. 2,3,4 and 5F; Fromont, figs. 1, 2A, 3,4, and 6; and Bernstein figs. 2-5 and 12.

The Examiner rejected claims 4 and 16-23 under 35 USC 102(a) as being clearly anticipated by Yamamuro aor Bernstein, stating,

> Note especially Yamamuro fig. 18, 21, 25 and 26. Since Bernstein is conformed to the shape of a ships hull, it would be three-dimensional.

The applicant respectfully traverses the Examiner's rejection as follows:

The patents referenced by the Examiner (Carson, Fromont, Bernstein and Yamamuro) do not anticipate the present invention. Each of these cited patents describes an acoustic transducer that use piezoelectric film in combination with a fluid (or elastomer) filled void on